SciVerse ScienceDirect

Procedia - Social and Behavioral Sciences 30 (2011) 2210 – 2215

Procedia
Social and Behavioral Sciences

WCPCG-2011

Psychology's Third Wave

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Abstract

The development of epistemological paradigm of psychology could be divided in three stages which reflect the cultural state of society's development. Psychological understanding has drawn its primary view and has constituted its fundamental laws mirroring natural, social and cultural reality successively. This evolution is consistent with the humanistic course of Maslow's pyramid, which corresponds to human being tri-unitary humanistic constitution: nature, society and culture. We can call this the "humanistic development of epistemological paradigm of psychology". The time for the last scientific "revolution" toward final form of psychology is coming. Are the psychologists and public prepared for this?

Selection and/or peer-review under responsibility of the 2nd World Conference on Psychology, Counselling and Guidance.

Keywords: Psychology's epistemology;scientific evolution; evolution of consciousness; anthropic principle;

1. Introduction

Psychology is one of the youngest disciplines of the human being that has stemmed from venerable philosophy and from well-established natural sciences. The evolution of scientific psychology from the first ideas of the associations, empiricists and positivists in conjunction with the more "experimental" psychophysics, physiology and undeveloped psychometrics was a very complex process, in the same time puzzling and oscillating. Nevertheless, the analysis of its development can recognize two fundamental patterns of evolution. Firstly, the construction of psychology as an institution followed the path of cultural evolution of society. The leading perspective of psychological knowledge, at any moment, reflects the cultural state of society's development. Secondly, we can also notice that the fundamental philosophy underlying its paradigm had a particular pattern which dynamically corresponded to human being and the tri-unitary humanistic constitution: nature, society and culture. We can call this the "humanistic development pattern of psychology's epistemology", while it reminds us of Maslow's humanistic pyramids.

2. Humanistic development of psychology

Hence, in respect with the past psychology's propensity for a particular direction of development, we can divide its history in three stages or waves. The first was the wave of "natural psychology": a mirror copy of natural epistemology of sciences characteristic for the first original quantitative psychophysical researches on the relationship between physical stimuli and the psychological processes they affect and also by psychometric analysis which concluded the scientific truths by abduction. The second was that of "social psychology" based on statistical epistemology as the main criteria for conducting, building and supply its findings - the research model and truth's

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Selection and/or peer-review under responsibility of the 2nd World Conference on Psychology, Counselling and Guidance.
doi:10.1016/j.sbspro.2011.10.430

verification being valued only if can be translated in numerical data. Now we are passing through the third wave of psychology, "cognitive psychology". This was made possible by the development of both non-invasive high-technologies and human ideology. Some of its essential assumption (e.g. answers to basic, empirical questions can be given only in terms of information processing, are constrained by (relevant) findings of neuroscience, and should be justified on empirical grounds, but especially its tendency to focus rather on the individual and their natural environment, and less on roles of culture and society, the sharp distinction and autonomy of cognitive from non-cognitive capacities (e.g. affectivity, motivation, etc.), or the stark division between "normal" and "abnormal" cognition, and disregard for individual differences (Eckardt, 1993)) indicates that "cognitive psychology" is just a phase and could be only a component of the future paradigm of mature psychology. My thesis is that even this third wave would be over-passed toward a more comprehensive paradigm on psychological processes. A sort of "Great Unified Theory" of Psychology, which should encompass both all three "conditionals" (as in the Buddhist pratītyasamutpāda concept of "dependent arising" "conditioned genesis", "dependent co-arising" or "interdependent arising" (see Puligandla, 1996)): nature, social, and culture, and all three perspectives: first, second, and third person. "We need to introduce a *second-person perspective* to complement our studies of consciousness in philosophy of mind, cognitive science, psychology, and the neurosciences." Inter-subjectivity would "correspond to introspection and inspection (first- and third-person forms of knowing)" (Quincey, 1999). This perspective would stress equally on all three constituents of the human tri-unity, like biogenetic structuralism theory which "is simultaneously neurobiological, phenomenological and socio-cultural, incorporating all the avenues of scientific research relevant to the study of consciousness, with a particular emphasis upon ethnographic and neurophenomenological methodologies" (Laughlin, 1999, p. 460; see also Laughlin, McManus and d'Aquili, 1990).

This evolution of psychology was possible only within the larger framework of human society development, and both was shaped and transformed by the evolution of the human psyche. As the human psyche suffered a gradual mutation from the dominance of (more or less automatic) physiological driven processes, through the more and more socially determined conduct, as a result of increasing interdependency within human societies (civilizing process) (Elias, 2000), to the domination of idea-logical inner processes nurtured by the explosion of information, communication and media technologies, the object, procedures, and epistemology of psychological knowledge should change accordingly. The nowadays Babylon within Psychology is the living prove of this epistemological transmutation. Psychology, as a form of collective self-knowledge of human species, is at the dawn of a new era, in the middle of a scientific revolution (Kuhn 1962/1996). It is changing the sociological-statistical paradigm with phenomenological-cognitive one. At this moment "in psychology, we simultaneously take our phenomenology too seriously and not seriously enough: too seriously when trying to understand how the mind corresponds to the brain and not seriously enough when we want to understand psychological phenomena as real and scientifically valuable, even in the face of spectacular and unrelenting progress in neuroscience. Changing this state of affairs is a central task for the future." (Barrett, 2009) If we are looking in the history of psychology, we can distinguish three epochs: "natural", "social" and "cultural" psychology. (The terms used to label these three epoch, could generate confusions, as long as they overlap the name of some well-distinguish branch of modern psychology, however they should understood in their primary sense as related with physical, social and cognitive reality.)

Table 1. Humanistic development pattern of psychology's epistemology

Paradigm / Characteristics	Natural psychology	Social psychology	Cognitive psychology	Fourth wave Psychology
Primary relation	Physical causality	Statistic causality	Mental causation	Non-generic and/or quantum causality
Operational object	"Substance"	Social action and behavior	"Human" cognition	Human tri-unity
Operational field	Physical world	Social world	Informational world	Universal world
Whole and part	From part to whole	From whole to part	Whole and part	Whole and whole
Ontology	Physical	Social	Cultural	Phenomenological
Carrier	Tangible substance	Behaviors and actions	Intangible cognitive processes	Energy
Consciousness	Epiphenomen	Reflective activity	State of (human) being	Way of Being

This evolution becomes evident if we analyze the situation of the basic categories engaged, in time, by the psychological discourse. The transition was not smooth at all. On the contrary, at this the general level of psychology, despite of some occasional progress of the research paradigm, it is still subordinated to the old

paradigms of natural and social understanding of it. "Psychology, in walking a tightrope between the social world and the natural world, tries to map observer-dependent categories to observer-independent categories. The trick, of course, is to be clear about which is which and to never mistake one for the other." (Barrett, 2009) Also, the temptation to reduce emotion and cognition to causal constructed events by the brain, for example, is indebted to the older paradigm of natural causation. In its evolution toward the next step, psychology has to overpass not only those two paradigms, but the cognitive one also. It has to go beyond both the level of "linguistic turn" in understanding the world - the conceptual language gives the reality to the world, and the social constructivism of psychological reality - the categories with modern psychological currency are like money, marriage, nationality, or any of the ontologically subjective categories as Searle so convincing demonstrates (Searle, 1995 ; see also Searle, 1992). (Although, his particular position on mind-body problem was the controversial biological naturalism.)

3. Psychological causality

I will expand the idea, using as example, the concept of causality. Originally it belongs to Physics. During the last 100 years this concept suffered profound transformations due the general direction of scientific evolution. This entails that any mature science would arrive at a point from which the question of its condition of possibility (the transcendental perspective) will become mandatory. That means it must find some way to demonstrate its fundamental presuppositions or principles. This task can't be made within solely that science, but it has to appeal to others. In our case the peak theory of physics (Great Unified Theory) necessitates the conscious observer, and hence it should make an appeal to psychology, the science dedicated to the subject. Since 60's Wheeler advanced the idea of a reality as participatory phenomenon which necessitates a conscious self observer, i.e. *Participatory Anthropic Principle* (Newman, 2006). The evolution of human understanding and scientific view over the world, in most of its fields, growth simultaneously, and corresponding with the evolution of human understanding about the world. The natural sciences were built on the principle of objectification or the "hypothesis of the real world" around us which "(…) amounts to a certain simplification which we adopt in order to master the infinitely intricate problem of nature. Without being aware of it and without being rigorously systematic about it, we exclude the Subject of Cognizance from the domain of nature that we endeavor to understand. We step with our own person back into the part of an onlooker who does not belong to the world, which by this very procedure becomes an objective world." (Schrödinger, 1992, p. 118) This old "natural" principle of objectification was gradually replaced from the fundamental principles of physics, by the more "social" principle of probable states of a quantum system, and after this by the more "individualistic" concept of consciousness constructed reality, whilst for quantum physics, mentally oriented action of agents became part of the theory.

The (parallel) evolution of concept of causality within Psychology can be best distinguished at the level of mental causality, i.e. the mind-body problem. First psychological conception worked on the assumption of existence *physical causality* for conscious events. This was, for example, the paradigm of Wundt's schools of introspection. "Put simply, the Liepzig school held that the contents of consciousness are constructed 'bottom-up' from simple sensations combined in accordance with the strength of association between them" (Braisby and Gellatly, 2005, p. 9). The "natural" psychology is based on a physics of downward causation: that accounts for a phenomenon by appealing to the properties of the next level down (Davies, 2006). But this paradigm failed to explain mental causation. The evolution of researches drove, for example, to the "anomalous monism" as a possible solution for the property-based problem of mental causation. It asserts that the psychological causality over matter is driven by three principles: "The first principle asserts that at least some mental events interact causally with physical events. (We could call this the Principle of Causal Interaction.) (…) The second principle is that where there is causality, there must be a law: events related as cause and effect fall under strict deterministic laws. (We may term this the Principle of the Nomological Character of Causality.) (…) The third principle is that there are no strict deterministic laws on the basis of which mental events can be predicted and explained (the Anomalism of the Mental)." (Davidson, 2001a, p. 208; see also Davidson, 2001b)

The growth and development of social reality shed a new light on the concept of causality. Even the physics incorporated partially this perspective in its methodology. Social complexity brought in the scene the statistical causality which permits: many causes for the same effect; cause dependency on time; same cause different outcomes; outcomes as the effects of various causes that depend on each other; and circular causality (Hall, 2003).

"Quantification seemed to, mark psychology as one of the exact sciences and to distinguish it sharply from such questionable pursuits as philosophy and spiritualism, with which it had been popularly associated" (Danziger, 1990, p. 147). But the intrinsic limitation of "social" psychology and its fundamental epistemology - its ability to provide essentially statistical information and quantitative data, which ensures its imposition at large-scale of modern psychology as a practically useful discipline, had developed in a paradox. The subject matter of psychology is the individual consciousness, but the procedures by which it proposed to explain it are essentially statistical hence, collective, in their nature. At individual level, the statistical inference is almost null as practical value, in the best case and has only descriptive valence in the absence of scientific judgment. Psychologists under the influence of this paradigm seems to change more into sociologists, or worse in statisticians, and starts to confuse the psychological reality they were supposed to be investigating with their a constructed statistical reality. "Statistical ability divorced from a scientific intimacy with the fundamental observations leads nowhere," said Edwin Boring (Boring, 1919, p. 338). The usefulness of statistical based experimental method is limited to elementary and reductionist conception of psychological processes. The application of experimental methods to molar behavior patterns could result in some statistical regularities with can be generalized with extreme caution and many risks, and can't apply at all to the behavior of any single individual (Bakan, 1967, chaps. 1-3; Sidman, 1960), apart from the conjunction with other methodologies. This doesn't reject the statistical methods as completely wrong for psychological research. On the contrary, similar to a social system, the study of personality necessitates a more complex notion of causality. Like the model of levels entanglement from quantum physics, where we have emergent genuine rules at higher levels of description, in the case of human psychic we have to accept the deployment of particular forces (natural, social, cultural) under the control of a global personality system. Moreover, the sharp diction of psychological processes has to be conceived more nuanced and less autonomous. For example, in anthropology emotion and cognition were for long time considered as cultural relative and hence, observer-dependent. Social psychology proves very persuasive and subtle the causal attribution of meaning for behaviors and actions that any observer had to made in order for that behavior or action to be considered as such, i.e. exist like one (Gilbert, 1998).

But this is not a psychological explanation. For a real explanation of psychological processes we need, simultaneously to address to its physiological base (physical causation), social construction (statistical causation) and phenomenological (mental causation) aspect. Nevertheless, there is already plenty of evidence that psychological phenomena can't be reduced to physical events observer independent categories (Pessoa, 2008; Duncan and Barrett, 2007). Only the synthesis of these three types of causation can explain mental processes. The self, thoughts, memories, beliefs emotions, automatic or controlled processing, are three times observer dependent: by its physiological processes, by its social determinations and by its personal agency. The brain organization and mental states structure are not in a one-to-one relation or not even in a simply supervenience rapport.

In my opinion, modern psychology reaches at a point in which an explanation of human psychic based on the anthropic cosmological principle (Barrow and Tipler, 1988) became a necessity. The evolution of science could be seen as evolution of human understanding, from the simple immediate phase of conscious as awareness of external world (physical), to that sentience about social determination of our thought and feelings, and finally as the consciousness of the dependence of reality of whole universe from the human mind.

4. New Physics, New World, New Psychology

One of the most well-known attempts at reconciliation between the subjective intuitions and objective reality with a concern for scientific findings is Whitehead's "Process Philosophy" (Whitehead, 1929). This theory maintains that at its most fundamental level, the world is made up of temporary events of experience, called "actual occasions" or "actual entities," and these are essentially self-determining, experiential, and internally related to each other. The world cease to be formed by enduring material substances and the old mind-body problem dissolves in the synthesis of compound individual - molecule-occasions and cell-occasions that form the body, which generate, by means of a central nervous system, the consciousness (a mind or soul). Hence, the "symbolic reference" becomes the third mode of perception, a synthetic and "impure" one, which combines the "causal efficacy" and "perceptual immediacy" "pure" modes of perception, and represent a different level of process reality. In the old paradigm (epiphenomenalism), the coherence with modern physics (especially with the law of the conservation of energy) was realized by considering the mental processes as side-effects of the physical events from the body, and hence processes did not amount to a total loss of a quantum of physical energy (Stumpf, 1910, p. 83). The new paradigm

could accommodate mental energy as an alternative form of energy, in addition to physical and chemical energy, with the specification that all three forms of energy could be transformed into one another (Külpe, 1898, p. 110; see Kusch, 1999, p. 159). This perspective could be consistent only if disengaged from classical physics. "Orthodox contemporary physical theory violates this principle in two separate ways. First, it injects random elements into the dynamics. Second, it allows, and also requires, abrupt probing actions that disrupt the mechanistically described evolution of the physically described systems." (Stapp, 2005) These probing actions, as they were called by von Neumann (1955) "Process 1 interventions", are instigated by the choices made by conscious agents and act upon the state of their brain in a sort of "top down" causal connections. The known basic rules of quantum physics controls these effects, and hence the possibility for a causal based science of mental acts over matter.

The quantum physics revolution intended to make human agents part of physical theory in a fundamental way, in a total opposition with what classical physics, which always strives to keep the human agency out. And this transmutation of paradigm, I claim, was possible only within the wider framework of epistemological consciousness development. The fourth wave Psychology should be concurrently neurobiological, phenomenological and socio-cultural, encompassing all successful scientific methodologies addressing to human phenomenon: ethnographic and neurophenomenological altogether. This requisite is already sentient within the domain. "The psychological science that I envision for the 21st century is not purely a social constructionist science. Instead, I am suggesting that psychology is a young science, and, like any young science, we must divest ourselves of the assumption that human experience reveals the way the world (in this case, the brain) works. That being said, phenomenology has a place in psychology, even if it is not a causal place in the way that we typically understand cause. Complex psychological categories may be the targets of explanation, but this does not completely strip them of their scientific utility" (Barrett, 2009).

5. Conclusion

All this doesn't mean that the future evolution of psychology has a well establish path. As two of Wundt's fundamental socio-psychological principles asserts, the human goals and, in consequence, the social ends (and scientific evolution), are characterized by the "mental growth" and "heterogony of ends" (Wundt, 1897, section 24). The human purposes have unintended consequences which then modify the purposes themselves, and often follows a "development towards opposites". Anyway, it is sure that future psychology has to overpass the ethnocentric, phenomenological and neuroscientific naivety, mind-body dualism limitation, reductionist scientific methodology and disciplinary closure, in order to equal at the level of its subject complexity, human consciousness.

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